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Impact of Therapeutic Education on Foot Care in People with Diabetes

According to the World Health Organization (WHO), more than 800 million people worldwide live with diabetes. People with diabetes can develop a range of long-term complications caused not only by persistent hyperglycemia over time but also by other risk factors such as high blood pressure, increased cholesterol or triglycerides (dyslipidemia), or smoking (1). Depending on the type of involvement, these complications

can be categorized as macrovascular (affecting large arteries), leading to coronary, cerebrovascular, and peripheral vascular disease; microvascular (affecting small arteries), which together with other metabolic factors contribute to the development of retinopathy (damage to the retina), nephropathy (damage to the kidney), neuropathy (damage to nerve endings), and diabetic foot, a consequence of peripheral neuropathy and/or macroangiopathy (2).

Diabetic foot is one of the most serious complications of diabetes and can lead to varying degrees of amputation. It can affect both people with type 1 diabetes mellitus (T1DM) and type 2 diabetes mellitus (T2DM), significantly reducing the quality of life of those affected and representing an important cause of disability and mortality. The socioeconomic cost is very high, as it consumes a large amount of health and social resources. Therefore, it is essential to adopt all possible measures for the prevention of foot injuries, with the aim of reducing the risk of amputation and, at the same time, reducing the socioeconomic impact of the disease (3).

The International Working Group on the Diabetic Foot (4) recommends comprehensive, multidisciplinary care that includes risk assessment for foot injury, followed by structured therapeutic education programs aimed at reducing the risk of developing and recurring foot ulcers (4). These programs should not only provide knowledge and self-care techniques but also focus on motivational strategies for behavior change, assess each patient's self-efficacy and self-care capacity, and take into account their needs and preferences (3). However, this type of comprehensive approach that incorporates all these interventions has never been fully investigated. Some studies include certain elements, but not all described interventions.

The aim of education in foot care is to prevent injuries through strategies that help patients understand the potential problems their feet may face, improve their knowledge and skills, change certain habits, and take responsibility for their own self-care. In cases where the patient has physical or psychological limitations that hinder self-care, education should be directed to their relatives or caregivers.

Recent articles published in this same journal (5–7) have thoroughly addressed aspects related to the causes, consequences, and prevention of diabetic foot, specifically highlighting the importance of therapeutic education for preventing foot injuries.

Therefore, this article aims to present the evidence regarding the impact of therapeutic education on the prevention of injuries, as well as some of the most widely used

educational interventions, based on data from three recently published systematic reviews (studies that integrate data from other independent studies on a given subject) (8–10).

The number, duration, and methodology of educational interventions (group or individual, use of leaflets or audiovisual formats), as well as outcome measures, varied considerably among the included studies. Notably, in some studies foot care education was provided through structured programs, while in others it was not.

STRUCTURED EDUCATION PROGRAMS

They have been shown to:

- Improve knowledge and skills in foot care.
- Improve self-care behaviors and adherence to them.
- Prevent the development of foot ulcers.

INTERVENTIONS FOCUSED ON PROVIDING KNOWLEDGE ABOUT FOOT SELF-CARE

Lectures, talks, brochures, or audiovisual formats are unidirectional methods where knowledge is transmitted, but patients or families do not actively participate. These methods, focused solely on providing knowledge, may increase it in the short term but are not sustained over time and are not sufficiently effective in preventing injuries.

INTERVENTIONS FOCUSED ON SELF-CARE BEHAVIORS

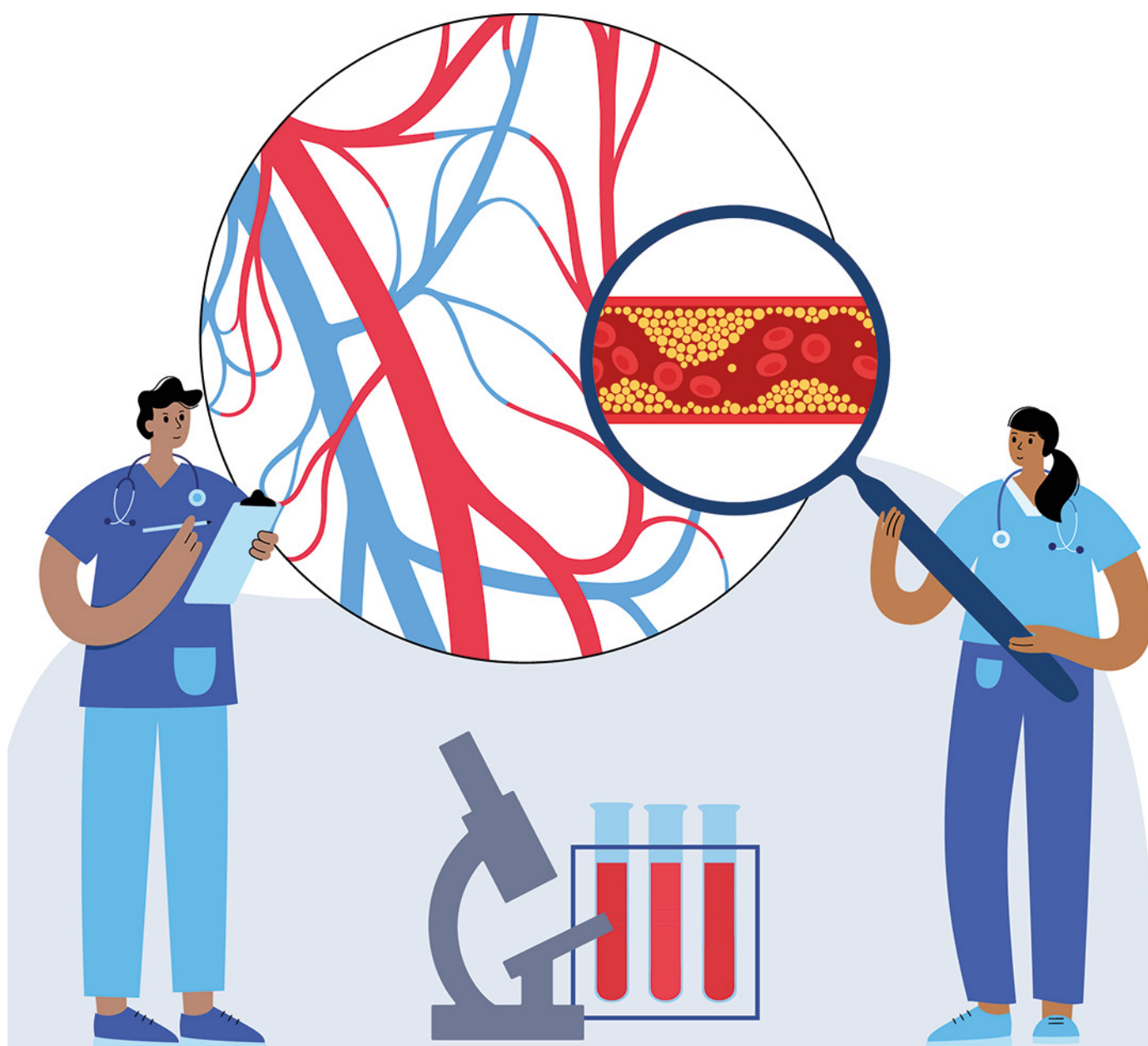
Working on foot care skills and footwear choice through practice-based educational methods, delivered over several sessions and particularly in structured programs, significantly improves foot self-care behaviors and self-efficacy in the short term. Achieving adherence to self-care behaviors could help reduce the incidence of foot ulcers, although the evidence remains uncertain (not all analyzed studies demonstrate this).

GROUP VS INDIVIDUAL INTERVENTIONS

Although many studies have shown the effectiveness of group education in patients »

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MAY FACE, IMPROVE
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AND TAKE
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FOR THEIR OWN
SELF-CARE**

DIABETIC FOOT IS ONE OF THE MOST SERIOUS COMPLICATIONS OF DIABETES AND CAN LEAD TO VARYING DEGREES OF AMPUTATION. IT CAN AFFECT BOTH PEOPLE WITH TYPE 1 AND TYPE 2 DIABETES MELLITUS, SIGNIFICANTLY REDUCING THE QUALITY OF LIFE OF THOSE WHO SUFFER FROM IT, AND IS A MAJOR CAUSE OF DISABILITY AND MORTALITY



» with diabetic foot, the analyzed studies did not observe significant differences in improving knowledge, self-care behaviors, and self-efficacy between group or individual education, with regard to foot injury prevention.

PSYCHOLOGICAL INTERVENTIONS

Psychosocial factors have been shown to influence diabetes management. How patients process information, their life experiences, and their cognitive representation of the disease are elements that affect treatment adherence, behavior, and foot care. Strategies addressing cognitive, emotional, and coping aspects should be included in educational interventions within therapeutic education programs for the prevention of injuries (4).

In the analyzed studies, two sessions of motivational interviewing did not improve adherence to appropriate footwear at three months of follow-up. In contrast, cognitive-behavioral therapy showed positive effects in modifying certain psychosocial risk factors associated with ulceration risk, such as mood, behavior, and social support.

CONSIDERATIONS

It is very difficult to determine which type of educational interventions are most effective for preventing foot ulcers, since published studies include patients with varying levels of risk, educational programs with different content, methodologies, evaluation measures, program durations, and follow-up periods.

Education delivered through structured programs improves knowledge, skills, and self-care behaviors.

Isolated educational actions, provided at a specific point in the disease course and focused only on knowledge and self-care techniques, are not sufficiently effective in preventing injuries.

The follow-up duration in the analyzed studies was short, so the long-term impact of educational programs and interventions remains unclear. This is critically important given the chronic nature of diabetes, meaning that educational programs must be maintained throughout the course of the disease. **D**

CONCLUSIONS

In short, although evidence indicates that foot care education is associated with the prevention of diabetic foot, more high-quality research studies are needed to compare the long-term efficacy of structured educational programs and different educational interventions for foot care to determine which type of intervention is most effective depending on the patient's situation.

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